the top of the intermediate vertical panel support. The radio receiver, time bases and amplifiers are housed in sections with their appropriate connections, while the loud-speaker is covered by a figured fret near the bottom of the panel. To add to the scope of usefulness of a set of this character, a gramophone turntable, together with an electrical pick-up is incorporated in a top compartment immediately beneath the lid.

Meeting Special Conditions

Of course, a scheme of this character is capable of numerous modifications, and the following design of receiver is suggested to meet the conditions of "this new television" when any form of long and regular service of transmissions becomes available to the general public on a wholly acceptable basis. A dual sound and vision receiver is desired, the actual cabinet design being one which will tone with the average modern room furnishings.

The image screen is located near the cabinet top, being a comfortable eye level when viewed from a few feet distant. Either a cathode-ray tube or one of the suggested mechanical forms of scanning would be suitable here, the cabinet depth being governed by the methods used for image integration. Below this could be grouped the actual radio and television receiver essential controls, symmetrically disposed on the slightly projecting upright wooden panel. A little lower could be placed the sound radio receiver controls with the loud-speaker underneath. Ample accommodation would be available for low-frequency amplifiers, H.T. and L.T. supplies, together with the auxiliaries essential to a scheme of this nature. Undoubtedly we shall see models of similar character to this on the market, and it must be agreed that any attempt made to provide home entertainment in this form is sure to meet with the approbation of the buying public, even if the price rules high when compared with the radio receiver alone now doing service in the home.

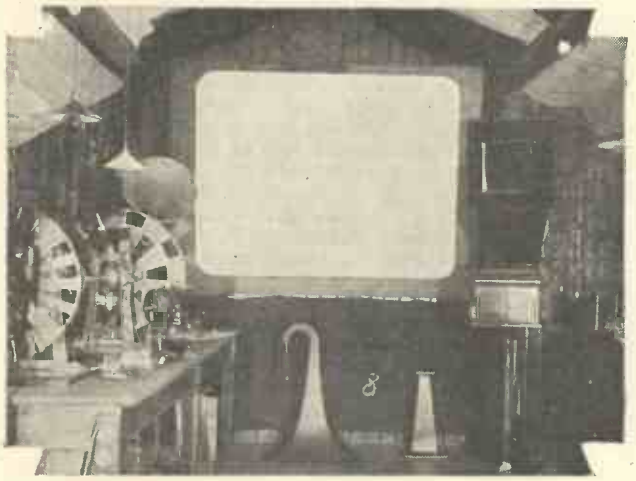


Fig. 7.—How soon will it be before the television images received in the house will be projected on to the small cinema screen of this size?

Of course, there are still many who look forward to the day when the received television images will be projected on to a home screen comparable in size with that illustrated in Fig. 7. Here we see the white screen of normal home talkie dimensions, and many of the television schemes now being investigated show promise of giving brilliant high-definition pictures suitable for this purpose. At present, however, the apparatus required is costly and needs the services of a skilled operator. This stage in the process of evolution towards the mass produced commercial product is inevitable, however, and a measure of patience leavened with a little helpful criticism will do much to stimulate the pioneer efforts now being directed to give "this new television" the status it deserves in the home life of the average household.

A NEW TYPE OF TELEVISION RECEIVER

A NOVEL AND INEXPENSIVE TELEVISION RECEIVER

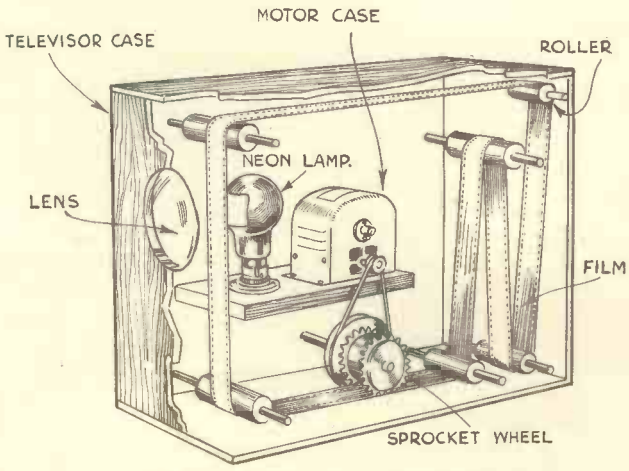
AT the present time there are only three main types of television receivers in general use, and these are the disc, mirror-drum, and cathode-ray receivers. While the last has many good points, it also has two great disadvantages, which are its high cost and its complexity of design. The two former systems are the most popular, but even they have their disadvantages. The disc receiver is rather large and unwieldy, and while the mirror-drum receiver is less bulky, it is more expensive and quite a strong motor is needed to rotate the mirror drum. Here is an entirely new type of receiver, however, that has two very good points, its low cost and compactness.

Instead of using a large disc or heavy drum as the scanning medium, a thin light strip of black celluloid or film is used instead. This film is perforated with a number of small holes spaced at regular intervals in just the same manner as is the disc of a disc receiver. The accompanying illustration shows the general construction of the receiver, and it will be seen that it closely resembles the principle of a small cinematograph projector. Square holes punched at each side of the film enable two sprocket wheels, one of which is mounted at each side of the driving motor, to drive the film past the Neon lamp at the correct speed.

There would be no stretching or buckling of the film, for modern methods of manufacture ensure that it maintains its original size and shape under the most adverse conditions.

As regards driving of the film, an adapted version of the system used in home-movie projectors would be eminently suitable, for such does not vary the position of the film to the lens by even a thousandth of an inch.

In a home-movie projector, even the slightest diversion of the film from its correct position would be magnified hundreds or even thousands of times on the screen, and as no flickering can be discerned even then, the great accuracy of the film driving system can be realised.



The general construction of the receiver